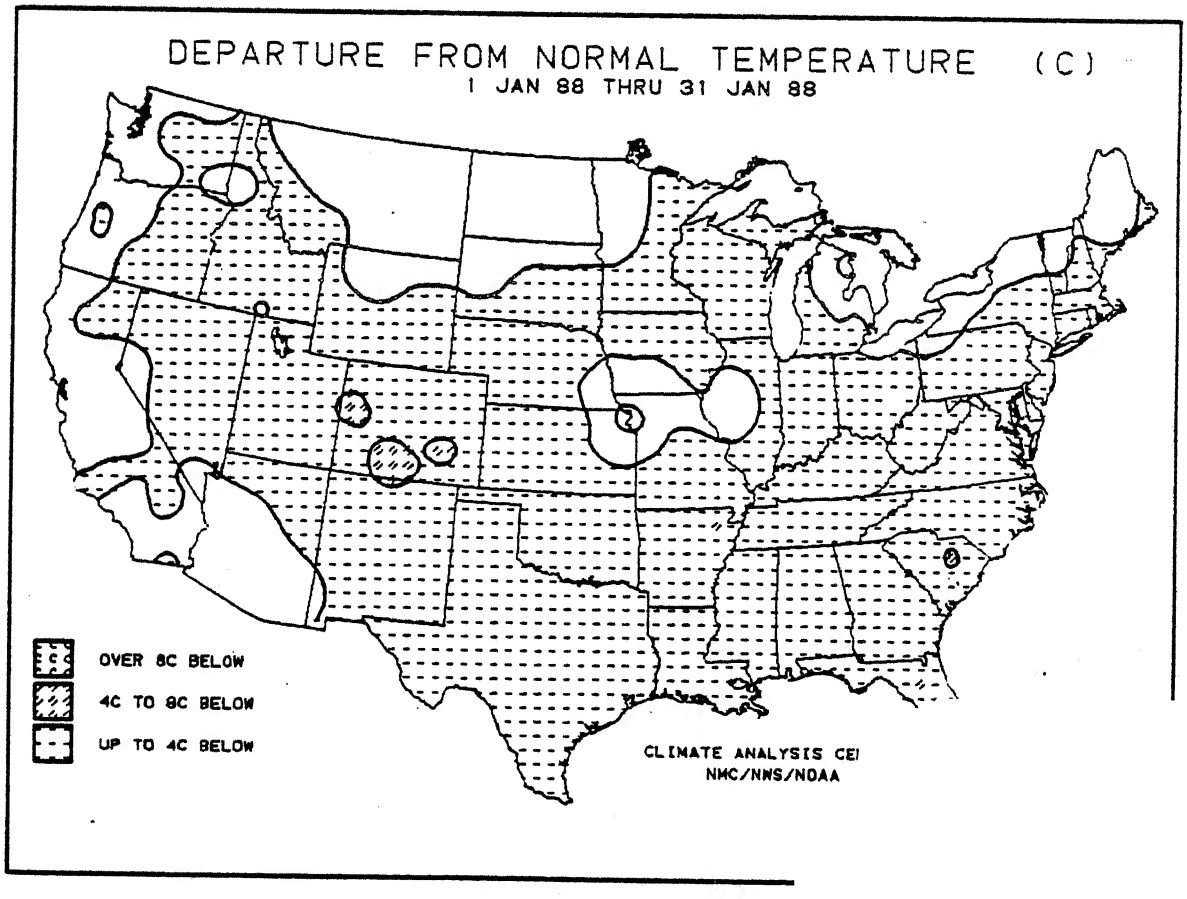
CLIMATE ANALYSIS CENTER

WEEKLY CLIMATE BULLETIN

No. 88/06 Washington, DC February 6, 1988



IN SHARP CONTRAST TO DECEMBER, MUCH OF
EXPERIENCED UNUSUALLY COLD CONDITIONS DU

WEEKLY CLIMATE BULLETIN

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This Bulletin is issued weekly by the Climate Analysis Center and is designed to indicate, in a brief, concise format, current surface climatic conditions in the United States and around the world. The Bulletin contains:

Highlights of major global climatic events and anomalies.
U.S. climatic conditions for the previous week.
U.S. apparent temperatures (summer) or wind chill (winter).
Global two-week temperature anomalies.
Global four-week precipitation anomalies.
Global monthly temperature and precipitation anomalies.
Global three-month precipitation anomalies (once a month).
Global twelve-month precipitation anomalies (every 3 months).
Global temperature anomalies for winter and summer seasons.
Special climate summaries, explanations, etc. (as appropriate).

Most analyses contained in this Bulletin are based on preliminary, unchecked data received at the Center via the Global Telecommunication System. Similar analyses based on final, checked data are likely to differ to some extent from those presented here.

To receive copies of the Bulletin or change mailing address, write to:

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Attention: Weekly Climate Bulletin
NOAA, National Weather Service
Washington, DC 20233
Phone: (301)-763-8071

IMPORTANT NOTICE
February 6, 1988

Effective immediately, the global monthly summaries will be done around the 15th of the month. This will improve the quality of monthly summaries by allowing us to incorporate monthly CLIMAT reports into the summarization process.

GLOBAL HIGHLIGHTS

MAJOR CLIMATIC EVENTS AND ANOMALIES AS OF FEBRUARY 6, 1988
(Approximate duration of anomalies is in brackets.)

1. AUSTRALIA: WARM, DRY CONDITIONS CONTINUE.

Little or no precipitation, less than 43.8 mm (1.72 inches), fell in north central and northeastern Australia last week. In some areas the dryness was aggravated by temperatures as much as 4.7°C (8.5°F) above normal [5 weeks].

2. EUROPE AND NORTH AFRICA: WARM CONDITIONS PERSIST.

Temperatures were as much as 7.6°C (13.7°F) above normal in East Germany as unusually mild conditions persisted in much of Europe, Tunisia, and northern Algeria [6 weeks].

3. SOUTHERN AFRICA: AREA REMAINS UNUSUALLY WARM AND DRY.

Unusually dry conditions in South Africa and adjacent parts of Mozambique and Zimbabwe were aggravated by temperatures averaging up to 4.4°C (7.9°F) above normal. Rainfall was spotty with amounts generally less than 14.7 mm (0.58 inch) last week [5 weeks].

4. BOLIVIA AND PARAGUAY: DRY CONDITIONS DEVELOP.

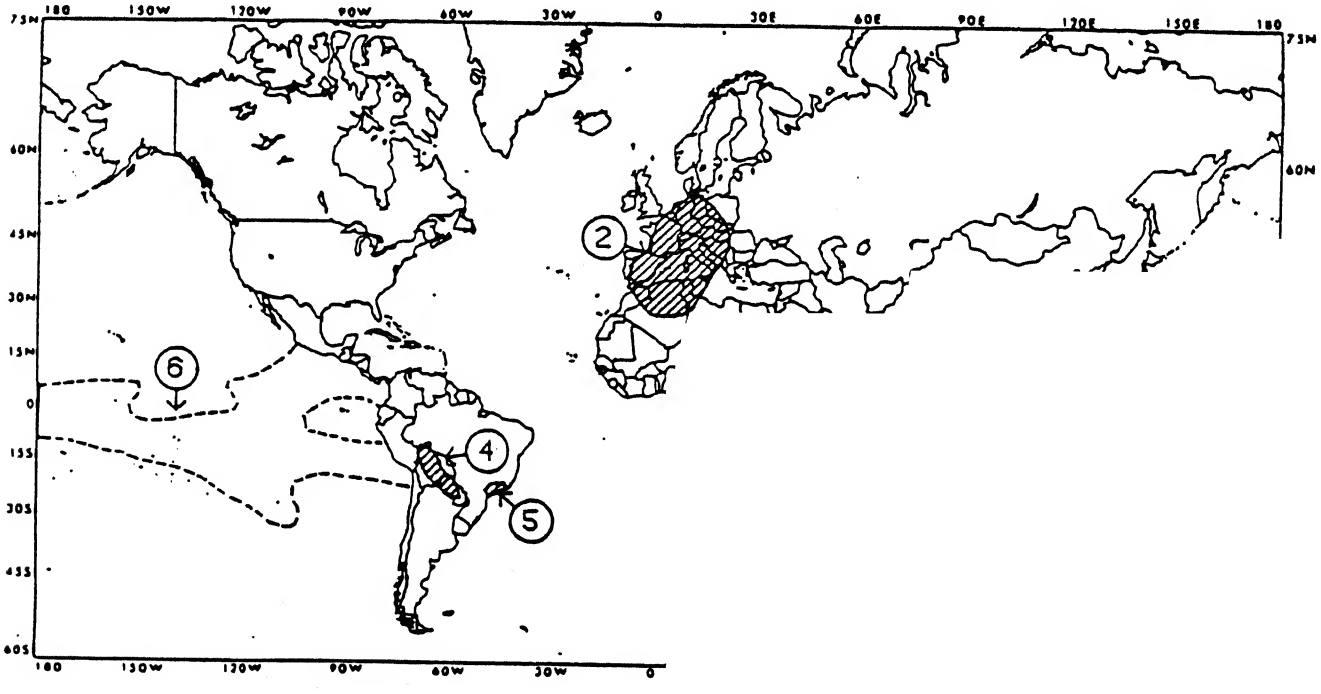
Unusually dry conditions developed in Bolivia and Paraguay as light precipitation, up to 30 mm (1.18 inches), was reported last week [7 weeks].

5. BRAZIL: HEAVY RAINS CAUSE FLOODING.

Heavy rains, up to 146 mm (5.75 inches) at Juiz de Fora, fell at stations around Rio de Janeiro last week and caused flooding in parts of Rio de Janeiro State [Episodal Event].

6. CENTRAL AND EASTERN TROPICAL PACIFIC: REFER TO DECEMBER 1987 EL NINO/SOUTHERN OSCILLATION (ENSO) ADVISORY.

The sea surface temperatures remained 1°C (1.8°F) to 2°C (3.6°F) above normal through December. The area above 1°C (1.8°F) is outlined for December 1987. The January 1988 ENSO summary will appear in the middle of February.



Approximate locations of the major anomalies this map. See the other world maps in this anomalies, four-week precipitation anomalies,

U.S. WEEKLY WEATHER HIGHLIGHTS

FOR THE WEEK ENDING MIDNIGHT FEBRUARY 6, 1988

After much of the nation experienced little or no precipitation the last week of January, the first week of February brought moderate to heavy rainfall across the eastern one-third of the U.S., especially in the Southeast and along the Ohio River (see Table 1 and Figure 1). According to the River Forecast Center, the largest amounts fell in southeastern Missouri (4.2 inches), southern Illinois (4.4 inches), southern Indiana (4.6 inches), southwestern Ohio (4.5 inches), northwestern Kentucky (5.3 inches), central Alabama (4.5 inches), southwestern Mississippi (5.1 inches), and south-central Louisiana (7.7 inches). Light to moderate amounts were measured along the Pacific Northwest coast, the Southwest, the southern Great Plains, in most of the Midwest, and throughout the mid-Atlantic and New England states. The Great Basin and northern California, the interior Pacific Northwest, the northern and central Great Plains, parts of the upper Midwest, most of Hawaii, and southern Florida received little or no precipitation.

Bitterly cold weather replaced unusually mild conditions across much of the northern and central portions of the country last week (see Table 2 and Figure 2). Temperature departures between 15-20°F below normal were common in Montana, Wyoming, the Dakotas, and Nebraska. In addition, gusty winds combined with the low temperatures and produced wind chill values in the Dakotas below -60°F. Much of the West and Midwest also recorded below normal temperatures. Early in the week, several cities east of the Mississippi River set daily maximum temperature records, but readings dropped dramatically as Arctic air swept south and east by the week's end. Overall, temperatures averaged above normal in the mid-Atlantic, Southeastern, and New England states. Parts of Delaware, Georgia, and the Carolinas had departures near 10°F above normal. Warmer weather returned to Alaska as its Winter continues to be abnormally mild.

TABLE 1. Selected cities with more than two and one-half inches of precipitation for the week.

New Orleans, LA (NEW)	7.57	Columbus, OH (CMH)	3.23
Baton Rouge, LA	5.86	Dayton, OH	3.22
New Orleans, LA (MSY)	4.92	Zanesville, OH	3.16
Cincinnati, OH (CVG)	4.31	Belleville/Scott AFB, IL	2.94
Paducah, KY	4.10	Columbus, MS	2.90
Evansville, IN	3.91	Kodiak, AK	2.78
Montgomery, AL	3.81	Atlanta, GA	2.77
McComb, MS	3.71	Louisville, KY	2.76
Lafayette, LA	3.61	Saint Louis, MO	2.73
Columbus, OH (LCK)	3.30	Knoxville, TN	2.63
Cincinnati, OH (LUK)	3.25	Lexington, KY	2.53

TABLE 2. Selected cities with temperatures averaging higher than 9°F above or lower than 15°F below normal for the week.

Nome, AK	+13	Sheridan, WY	-18
Unalakleet, AK	+13	Pickstown, SD	-18
Iliamna, AK	+12	Warroad, MN	-17
Kotzebue, AK	+12	Cut Bank, MT	-17
Bettles, AK	+11	Lewiston, MT	-17
Fairbanks, AK	+10	Miles City, MT	-17
Raleigh/Durham, NC	+10	Valentine, NE	-17
Washington/Dulles, VA	+10	Minot, ND	-17
		Rapid City, SD	-17
Williston, ND	-23	Duluth, MN	-16
Billings, MT	-21	International Falls, MN	-16
Glasgow, MT	-20	Devil's Lake, ND	-16
Havre, MT	-20	Sioux Falls, SD	-16
Great Falls, MT	-18	Gillette, WY	-16
Dickinson, ND	-18		

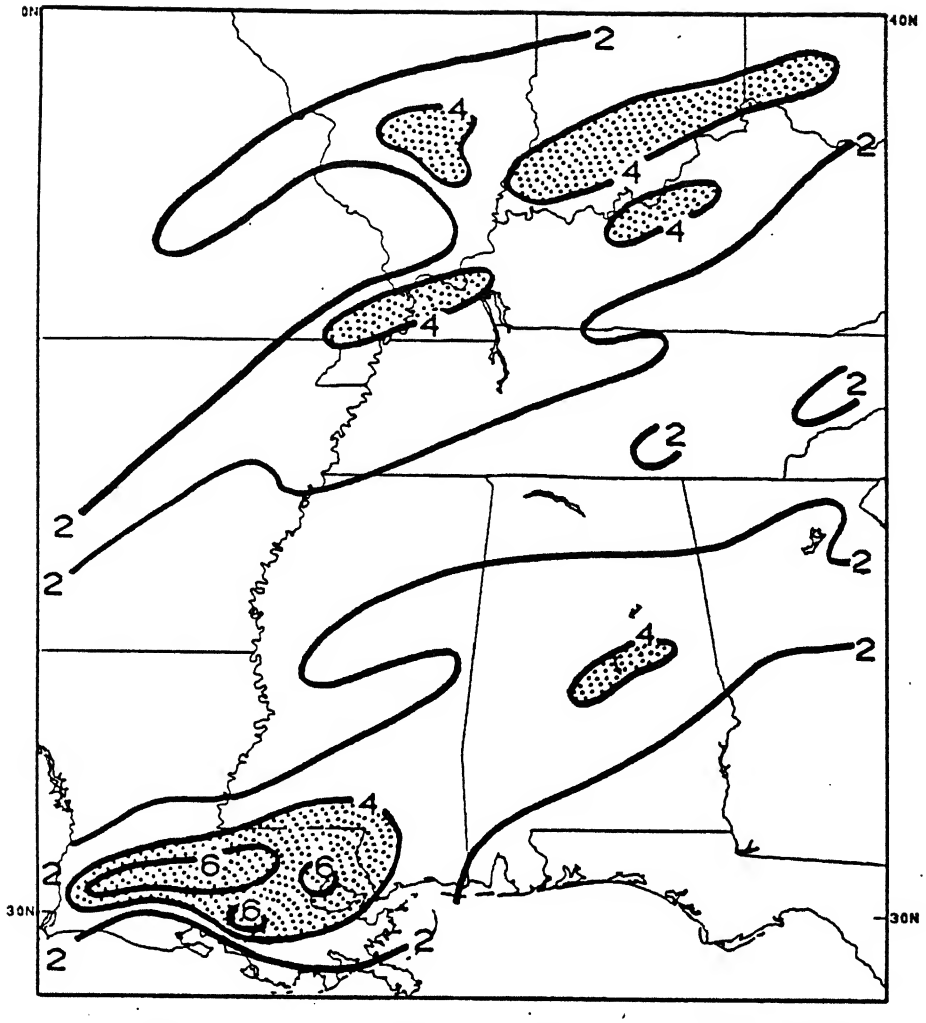


Figure 1

Total Precipitation (inches)

Based upon River Forecast Center data

January 31 - February 6, 1988

Stippled areas > 4 inches

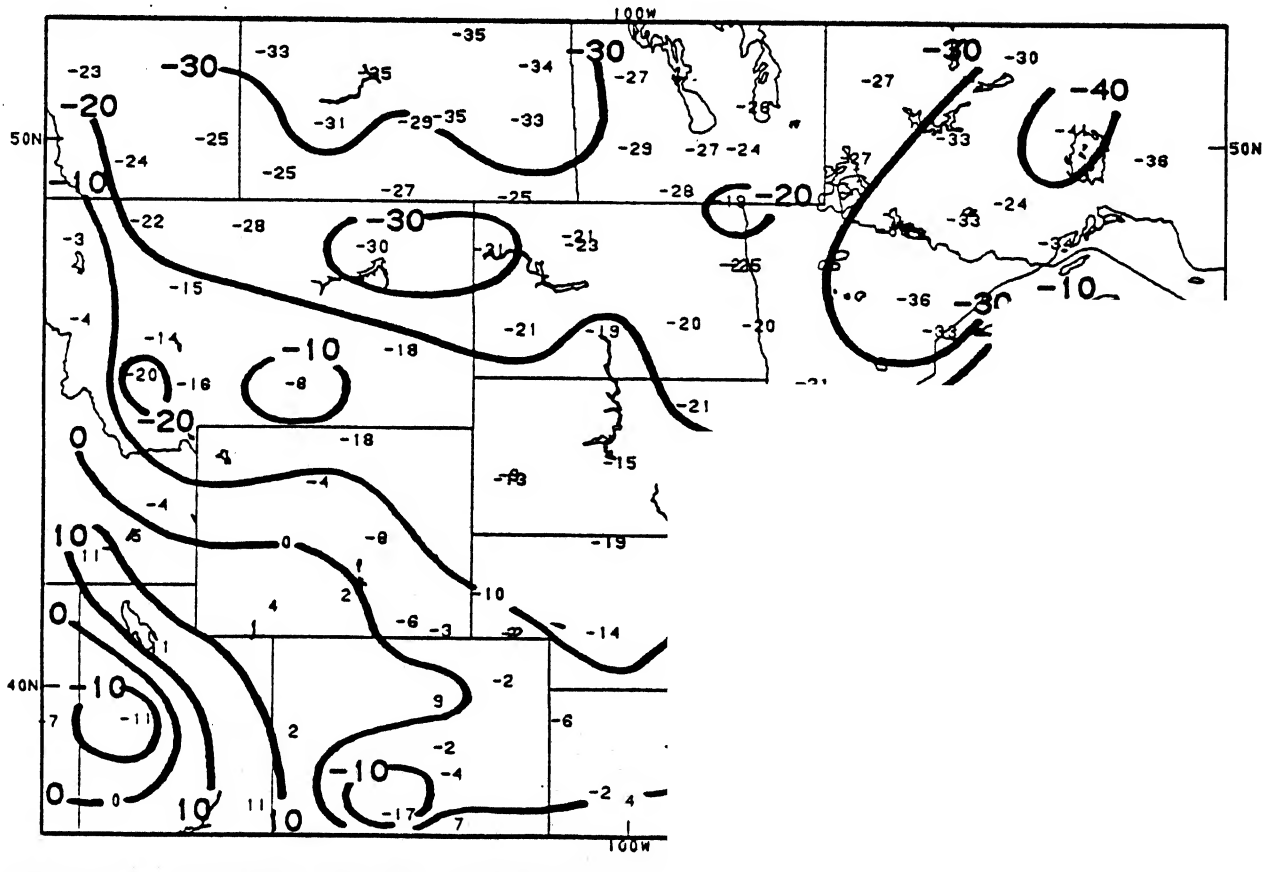
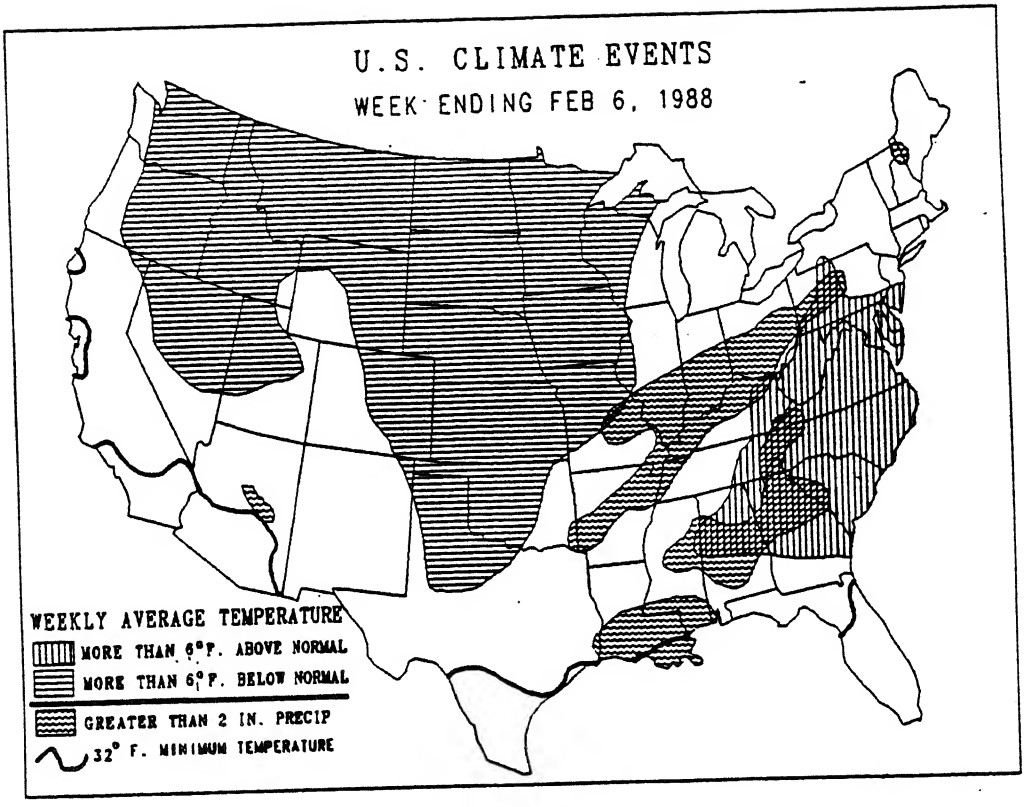
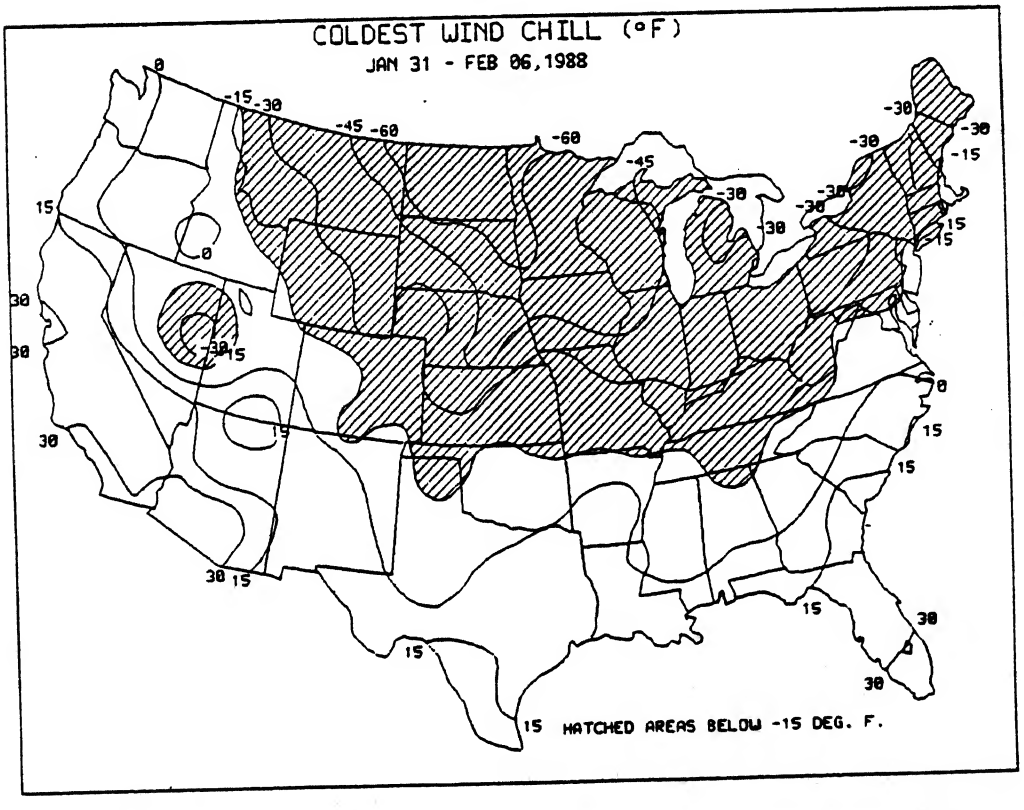


Figure 2. Extreme Minimum Temperatures (

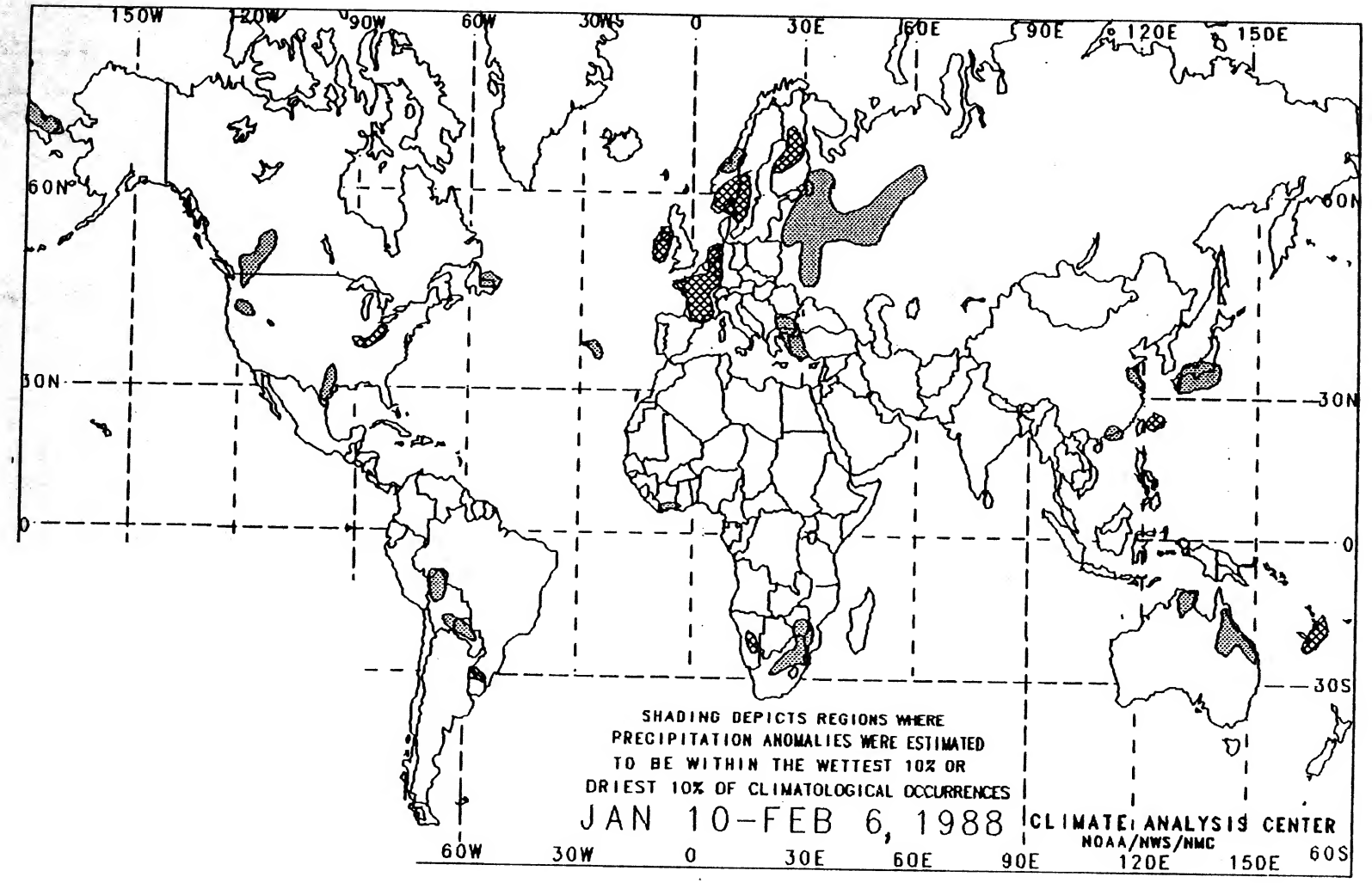




Arctic air invaded much of the central and eastern United States last week. Wind chills plummeted below -60°F in North Dakota and adjacent parts of South Dakota, Minnesota, and Montana.

GLOBAL TEMPERATURE ANOMALIES

2 Week



n approximately 2500
lays of temperature
Many stations do not
time observations are
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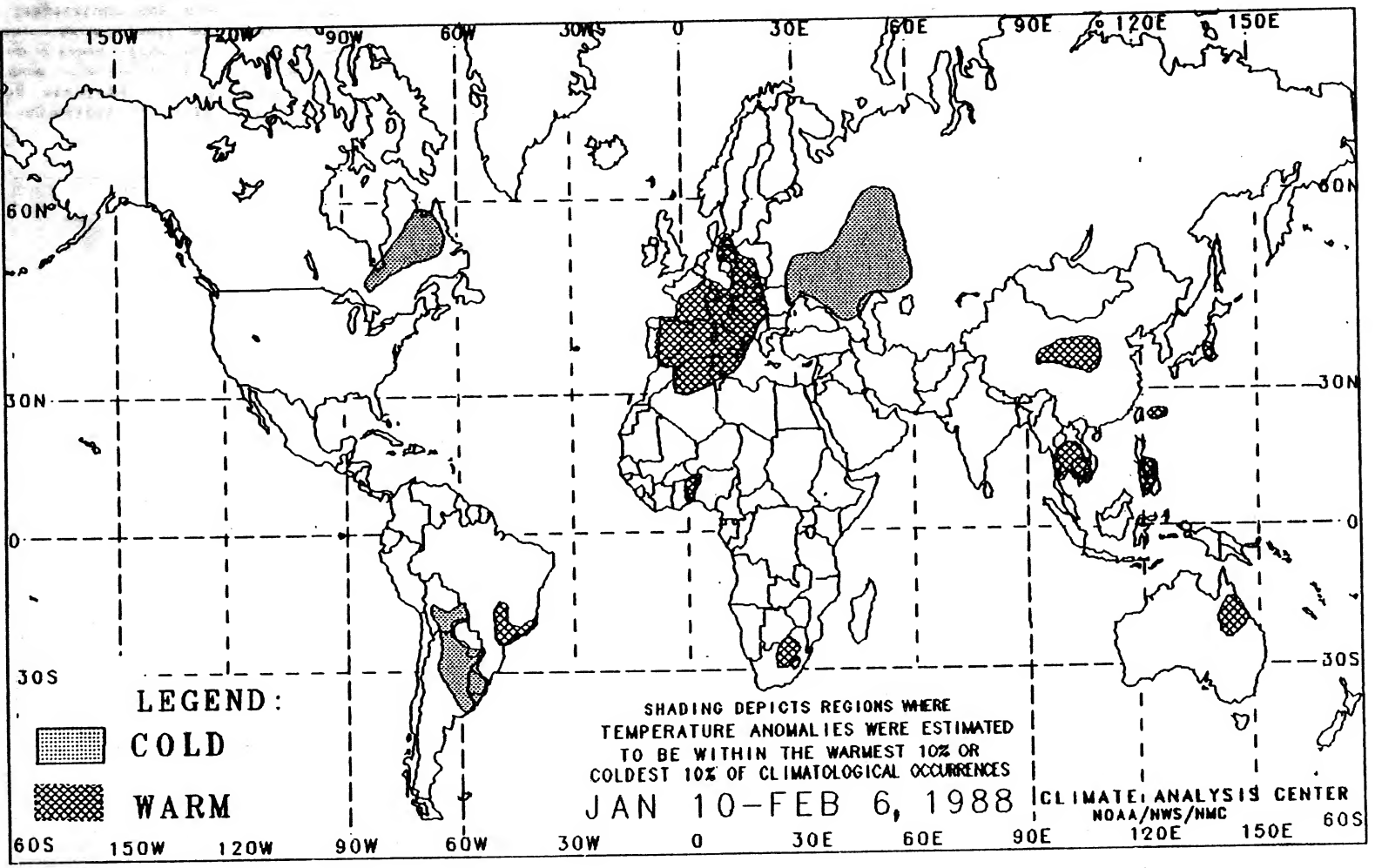
warm anomalies.

ss the magnitude of

In some regions, insufficient data exist to determine the magnitude of anomalies. These regions are located in parts of tropical Africa, southwestern Asia, interior equatorial South America, and along the Arctic Coast. Either current data are too sparse or incomplete for analysis, or historical data are insufficient for determining precentiles, or both. No attempt has been made to estimate the magnitude of anomalies in such regions.

The chart shows general areas of two week temperature anomalies. Caution must be used in relating it to local conditions, especially in mountainous regions.



The anomalies on this chart are based on approximately 2500 observing stations for which at least 27 days of precipitation observations (including zero amounts) were received or estimated from synoptic reports. As a result of both missing observations and the use of estimates from synoptic reports (which are conservative), a dry bias in the total precipitation amount may exist for some stations used in this analysis. This in turn may have resulted in an overestimation of the extent of some dry anomalies.

In climatologically arid regions where normal precipitation for the four week period is less than 20 mm, dry anomalies are not depicted. Additionally, wet anomalies for such arid regions are not depicted unless the total four week precipitation exceeds 50 mm.

In some regions, insufficient data exist to determine the magnitude of anomalies. These regions are located in parts of tropical Africa, southwestern Asia, interior equatorial South America, and along the Arctic Coast. Either current data are too sparse or incomplete for analysis, or historical data are insufficient for determining percentiles, or both. No attempt has been made to estimate the magnitude of anomalies in such regions.

The chart shows general areas of four week precipitation anomalies. Caution must be used in relating it to local conditions, especially in mountainous regions.

SPECIAL CLIMATE SUMMARY

Climate Analysis Center, NMC
National Weather Service, NOAA

UNITED STATES

CLIMATE SUMMARY FOR THE MONTH OF JANUARY 1988

The major climatic features of January included a bitterly cold Arctic outbreak that gripped the eastern two-thirds of the country during the first half of the month, unusually mild weather throughout Alaska, above normal precipitation in parts of the Midwest, the Great Plains, and Hawaii, and relatively dry conditions in much of the South and along the East and West Coasts.

Early in the month, a strong storm system moved from coast to coast and brought heavy rains to California and up to a foot of snow at stations across the country from Nevada eastward to North Carolina and northward to Maine. In mid-January, very heavy precipitation fell in the Pacific Northwest, but most stations reported monthly totals below normal (see Table 1 and Figures 1 and 2). Some exceptions to this included parts of coastal Oregon (17.7 inches), northern California (15.7 inches), and the Sierra Nevada Mountains (20.1 inches), according to the River Forecast Center data. Mid-month precipitation pushed totals above normal in Illinois, Wisconsin, and Upper Michigan. Abundant rainfall in Florida, Georgia, and Alabama during the last half of January greatly contributed to above normal monthly amounts. Abnormally dry conditions were reported in the South from Texas eastward to Mississippi, around the eastern Great Lakes, in New England southward through the mid-Atlantic states, along the northern Rocky Mountains, and in southern California (see Figures 1 and 2).

In contrast to December, January's temperatures averaged below normal across a vast majority of the country (see front cover). Very cold conditions prevailed throughout the nation east of the Rockies for the first half of the month and again towards the end of January. Minimum temperatures of less than -30°F were felt in the Dakotas and Minnesota, while gusty winds dropped wind chill values below -60°F. Since 1931, this month was the tenth coldest for the S
region (WV,DE,MD,VA,NC,SC,GA,FL). Warm weather in
during the third week of January greatly reduced the
departures. This is further depicted in Figure
temperature fluctuations that have dominated many
U.S. since late December. Mild conditions d
temperatures averaged 6-10°F above normal (see
Temperatures were above normal in the north
Coast, the Desert Southwest, the eastern Great
England.

TABLE 1. JANUARY PRECIPITATION AMOUNTS SIX INCHES OR MORE.

Station	Total (in.)	Pct of Normal	Station	Total (In.)	Pct of Normal
Kokee, Kauai, HI	20.74	215.8	Salem, OR	6.78	96.3
North Bend, OR	13.13	124.1	Columbus, GA (CSG)	6.61	146.2
Hilo, HI	10.31	109.6	Astoria, OR	6.57	61.2
Lihue, Kauai, HI	9.99	160.6	Mt. Washington, NH	6.55	89.8
Quillayute, WA	9.22	64.4	Kodiak, AK	6.35	110.2
Eugene, OR	8.72	104.2	Jacksonville, FL	6.33	216.0
Kahului, Maui, HI	7.72	190.6	Columbus, GA (LSF)	6.29	***
Ozark/Ft. Rucker, AL	7.67	***	Huntsville, AL	6.13	118.6
Redding, CA	7.25	85.2	Key West NAS, FL	6.05	***
Eureka, CA	7.13	102.2	Adak, AK	6.04	91.1
Chattanooga, TN	7.10	136.5			

(Note: Stations without normals are indicated by asterisks).

TABLE 2. JANUARY AVERAGE TEMPERATURES MORE THAN 5°F ABOVE OR LESS THAN 5°F BELOW NORMAL.

Station	Degrees F Mean	Dep	Station	Degrees F Mean	Dep
Aniak, AK	15	+16	Alamosa, CO	6	-10
King Salmon, AK	26	+13	Pueblo, CO	20	-10
Iliamna, AK	26	+12	Sumter/Shaw AFB, SC	38	-9
Kotzebue, AK	8	+11	Grand Junction, CO	17	-9
Unalakleet, AK	13	+10	Gainesville, FL	50	-8
Bethel, AK	15	+10	Fayetteville, NC	37	-7
Big Delta, AK	4	+10	Wrightstown, NJ	27	-7
Nome, AK	14	+8	Jonesboro, AR	33	-7
Kenai, AK	18	+8	Trenton, NJ	26	-6
Barter Island, AK	-8	+7	Patuxent River NAS, MD	31	-6
Fairbanks, AK	-5	+7	Harrisburg, PA	24	-6
Valdez, AK	25	+7	Cedar Rapids, IA	16	-6
Homer, AK	28	+7	Scottsbluff, NE	18	-6
Wainwright, AK	-10	+6	Crossville, TN	31	-6
Bettles, AK	-5	+6	Farmington, NM	24	-6
Anchorage, AK	18	+6	Kingsville NAS, TX	54	-6
Juneau, AK	28	+6	Elkhart, KS	29	-6
Cut Bank, MT	21	+6			

TABLE 3. RECORD JANUARY TOTAL PRECIPITATION.

Station	Total (In.)	Normal (In.)	Pct of Normal	Record Type
Fargo, ND	1.62	0.53	305.7	HIGHEST
Goodland, KS	1.59	0.36	441.7	HIGHEST
Rochester, NY	0.67	2.31	29.0	LOWEST

TABLE 4. RECORD JANUARY EXTREME TEMPERATURES.

Station	Extreme (Deg. F)	Record Type
Huron, SD	-37	LOWEST
Valentine, NE	-30	LOWEST

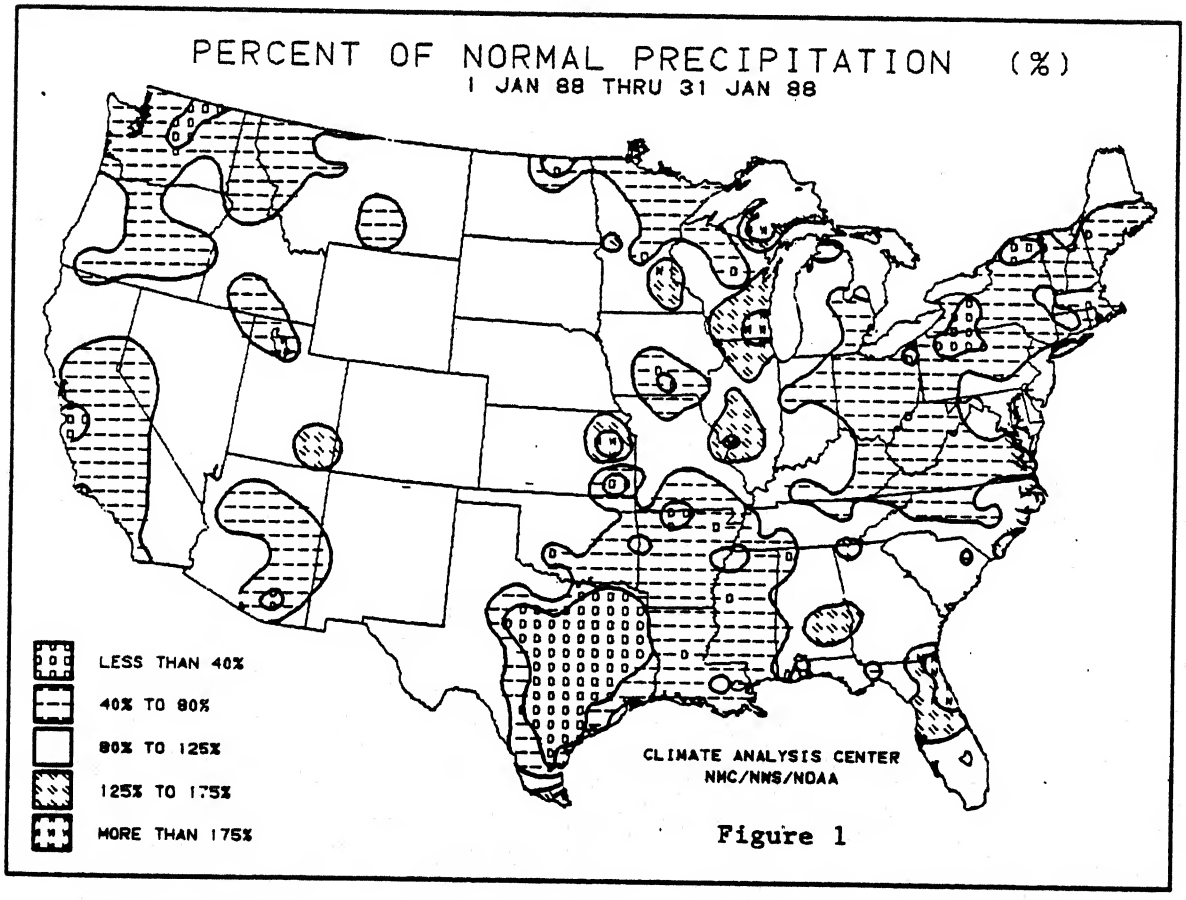


Figure 1

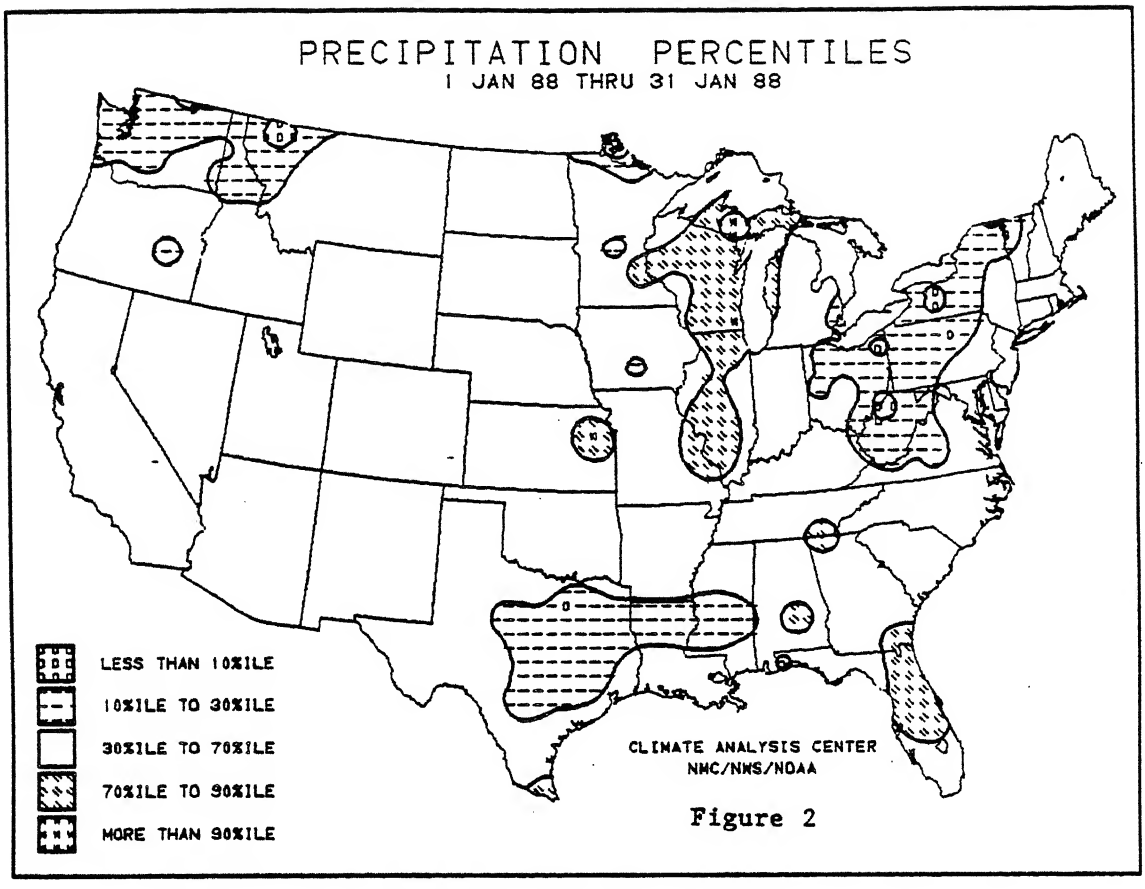


Figure 2

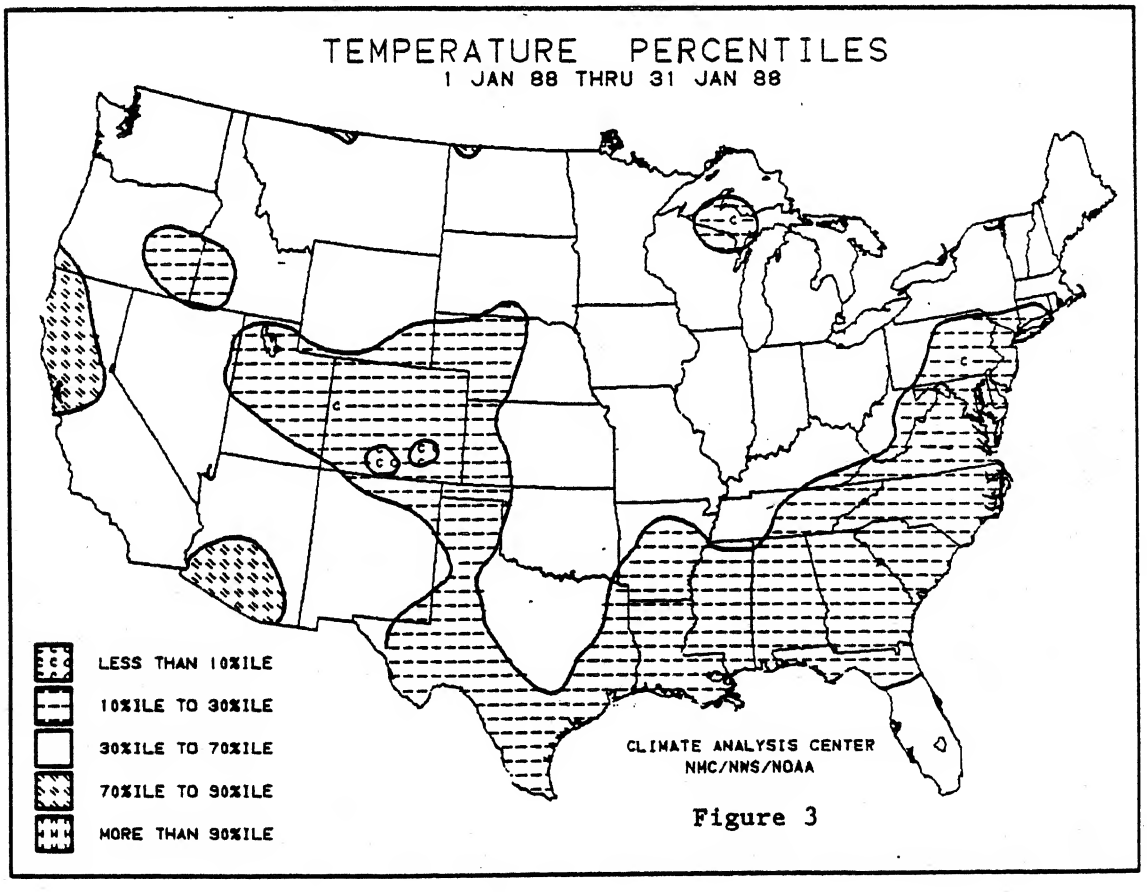


Figure 3

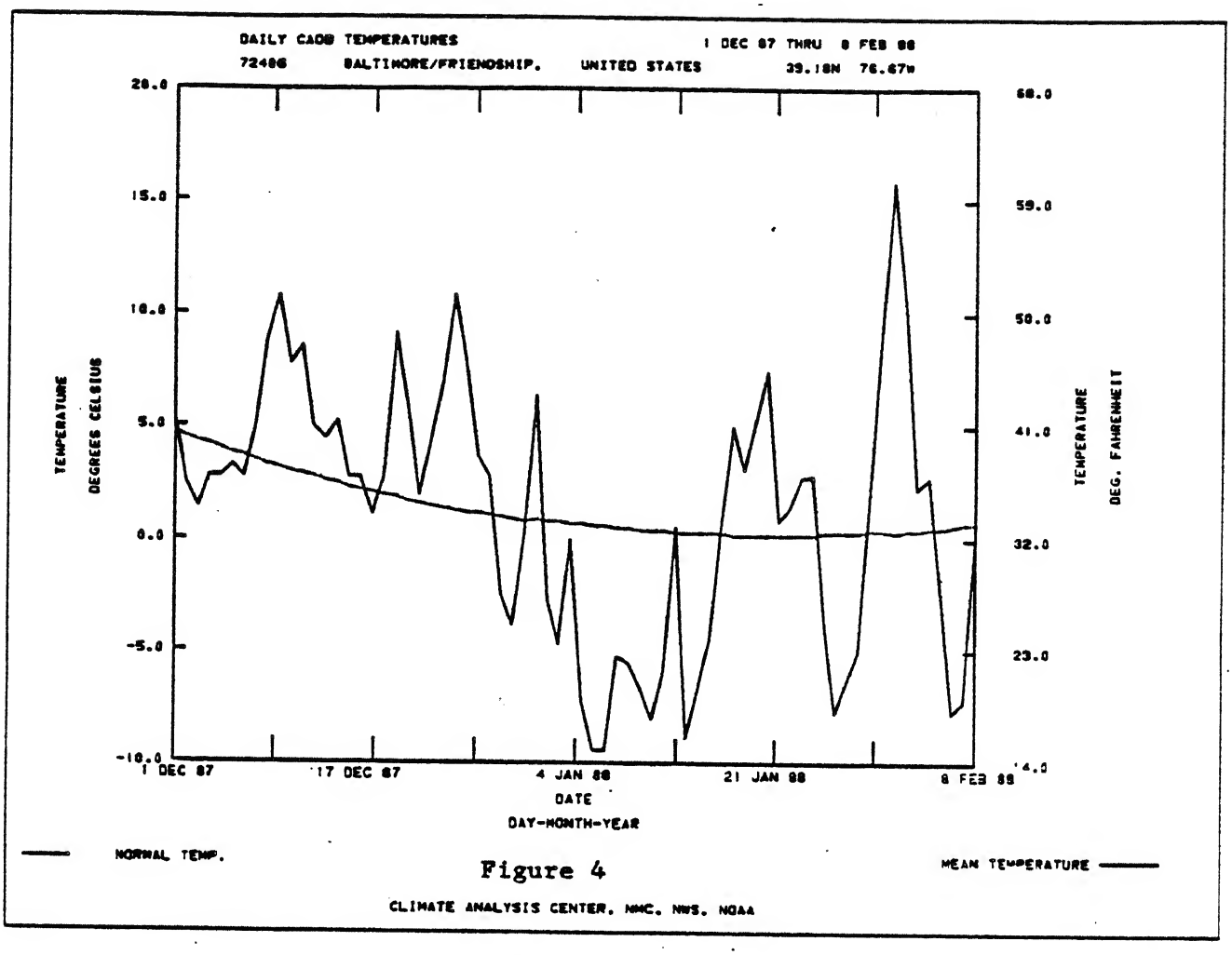
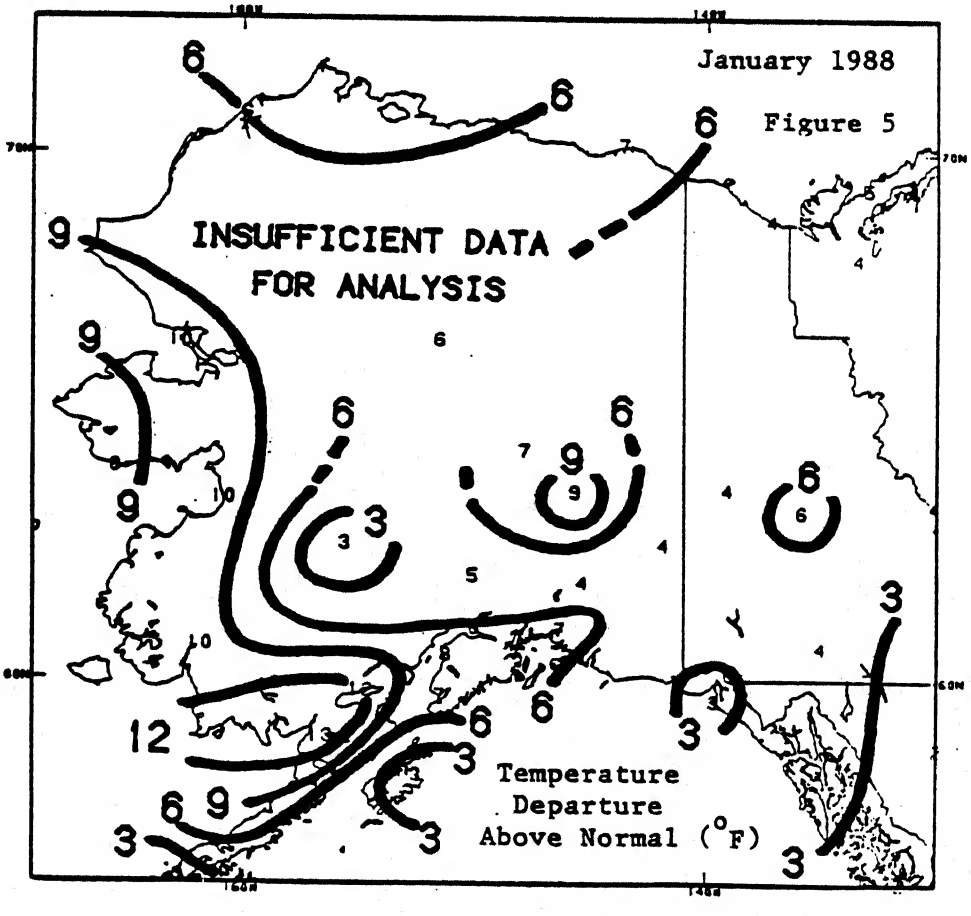
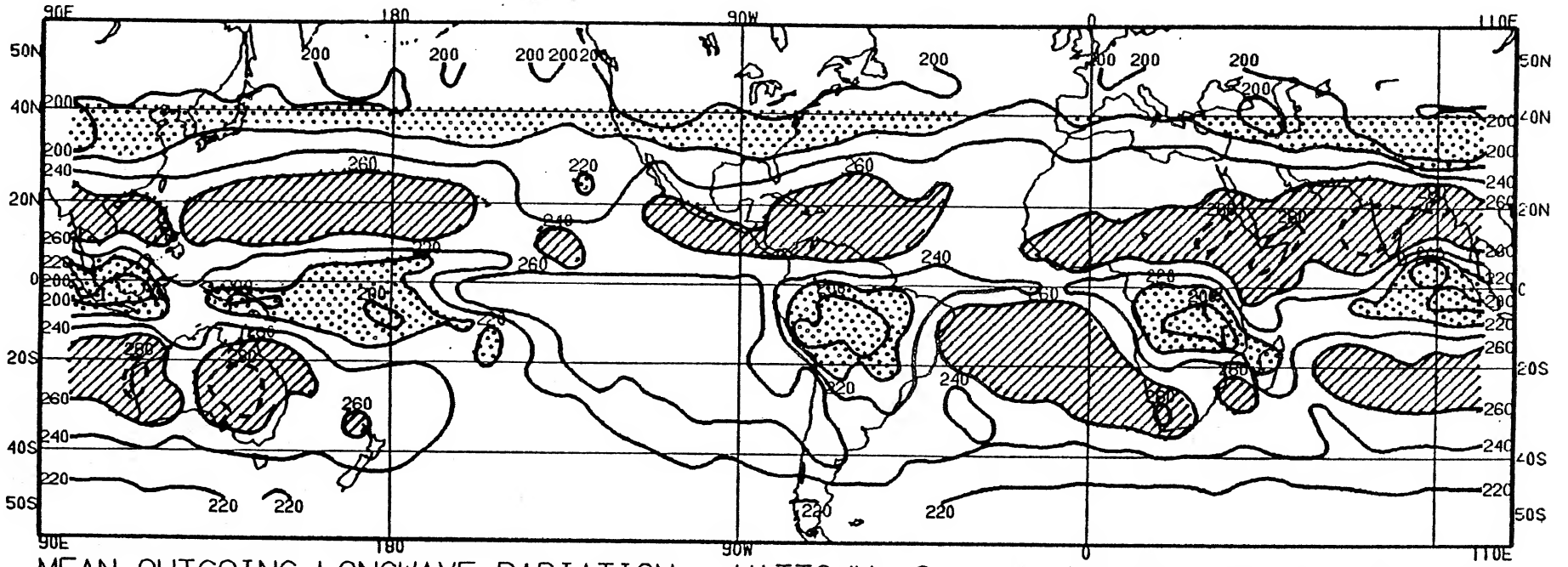

DAILY CADB TEMPERATURES
1 DEC 87 THRU 8 FEB 88
72406 BALTIMORE/FRIENDSHIP. UNITED STATES 39.18N 76.67W
TEMPERATURE DEGREES CELSIUS
TEMPERATURE DEG. FAHRENHEIT
20.0
15.0
10.0
5.0
0.0
-5.0
-10.0
68.0
59.0
50.0
41.0
32.0
23.0
14.0
1 DEC 87
17 DEC 87
4 JAN 88
21 JAN 88
8 FEB 88
DATE
DAY-MONTH-YEAR
NORMAL TEMP.
MEAN TEMPERATURE
CLIMATE ANALYSIS CENTER, NMC, NWS, NOAA

Figure 4


January 1988
Figure 5
INSUFFICIENT DATA
FOR ANALYSIS
Temperature
Departure
Above Normal (°F)



MEAN OUTGOING LONGWAVE RADIATION - WATTS/M**2 1 JAN 88 THRU 31 JAN 88

OLR LESS THAN 220, PRECIPITATION LIKELY

OLR GREATER THAN 260, PRECIPITATION UNLIKELY

The above map depicts the mean monthly value of outgoing long wave radiation (OLR) as measured by the sensor on board the polar orbiting satellite. In tropical areas that receive primarily convective rainfall, a mean OLR value of less than 220 watt/m^2 is associated with significant monthly precipitation, whereas a value greater than 260 watt/m^2 normally indicates little or no precipitation.

Care must be used in interpreting this chart at higher latitudes, where much of the precipitation is non-convective, or in some tropical coastal or island locations, where the precipitation is primarily orographically induced. The approximate relationship between mean OLR and precipitation amount does not necessarily hold in such locations.